

REMARKS

Claims 1-2, 4-6 and 8-20 are pending in this application. Claims 3 and 7 have previously been canceled without prejudice or disclaimer. For purposes of expedition, claims 1, 2, 4-5, 12 and 17 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections in accordance with current Office policy, to further define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

In the Office Action (Paper No. 18) dated on November 3, 2003, the Examiner notes that the Amendment After Final filed on September 5, 2003 has not been entered because it was non-compliant, i.e., failing to include the canceled claims 3 and 7 in the listing of claims presented. However, the Examiner has considered all claims as presented in that Amendment for examination purposes. The Examiner's courtesy is noted with appreciation. For purposes of completeness, a complete listing of claims, including the previously canceled claims 3 and 7, is presented herein for the Examiner's consideration and entry.

Claims 4, 12 and 17 have been objected to because of informalities listed on page 2 of the Office Action (Paper No. 18). In response thereto, claims 4, 12 and 17 have been amended in those instances kindly listed by the Examiner to overcome the objection.

Claim 9 has been objected to under 37 C.F.R. §1.75(c) as being of improper dependent form. In response thereto, claim 9 has been amended to overcome the objection.

Claims 1, 2, 4-6 and 8-19 have been rejected under 35 U.S.C. §112, 2d ¶, as being indefinite for reasons stated on pages 3-4 of the Office Action (Paper No. 18). For example, the Examiner asserts, on page 3 of the Office Action (Paper No. 18), that "it is not clear whether or not the related business processes are actually executed simultaneously or only capable of being executed as such" and, as a result, has interpreted such as being "executed simultaneously" in base claim 1. The Examiner's assertion is well taken. However, such related business processes are only capable of being executed concurrently, i.e., a situation when at least two business processes are allowed to start in parallel or in different timings and one of which may start after the other is completed. As a result, claim 1 has been amended to resolve this ambiguity.

In addition, the Examiner also asserts, on page 4 of the Office Action (Paper No. 18), that "it is not clear how an abnormality in one business process can prevent the start of execution of a related business process", and suggests that "it seems more accurate to say that the interdependent business process is prevented from being completed." The Examiner's suggestion is noted with appreciation, and has been adopted in claim 1, as amended.

Lastly, the Examiner also asserts that "it is not clear whether an abnormal status change is being detected for just one or for more than one of the recited business processes" in claim 2. Again, the Examiner's assertion is well taken. As a result, claim 2 has been amended to resolve this ambiguity.

For purposes of consistency, base claims 5, 12 and 17 have also been amended to reflect the changes made in base claim 1, in order to avoid potential §112 issues. In addition, all base claims 1, 5, 12 and 17 have been amended to

further clarify the definition of a user to be informed of the occurrence of the abnormality in the related business process. Specifically, claim 1 defines a workflow control method comprising, *inter alia*:

“[previously] defining in a **definition table** a start condition and a completion condition for each business process and an abnormal status change to be detected in related business processes capable of being executed concurrently with each other by said client computers;
detecting an occurrence of said abnormal status change in one of the plurality of related business processes based on said definition table;
selecting at least one user who has been already ordered to execute an interdependent business process having a start condition identical to that of the business process in which the abnormal status change was detected or to a completion condition of a business process executed concurrently with the business process in which said abnormal status change was detected; and
notifying a client computer corresponding to the selected user of the occurrence of abnormality in the related business process so as to prevent the selected user from completing the interdependent business process.”

Similarly, base claims 5, 12 and 17 define a workflow system or a workflow management system comprising, *inter alia*: “a definition table” or “means for defining a start condition and a completion condition for each business process and an abnormal status change ... to be detected in related business processes capable of being executed concurrently ...” “a notifier configured to notify the occurrence of a discontinuance in the business process to at least one of the client computers, when a user of the at least one client computer has been already ordered to execute an interdependent business process having a start condition identical to that of the business process in which the discontinuance was detected or to a completion condition of a business process executed concurrently with the business process in which the abnormal status change was detected, so as to prevent the user from completing the interdependent business process.” The subject matter added to

Applicants' base claims 1, 5, 12 and 17 are shown, for example, in FIG. 13, FIG. 14 and described on page 18, line 21 extending to page 22, line 23 of Applicants' disclosure.

In view of the foregoing amendments to claims 1, 2, 4-5, 12 and 17, Applicants respectfully request that the rejection of claims 1, 2, 4-6 and 8-19 under 35 U.S.C. §112, 2d ¶, be withdrawn.

Claims 1, 2, 4-6 and 8-19 have been rejected under 35 U.S.C. §102(b) as being anticipated by a newly cited art, Randell, U.S. Patent No. 5,826,020 for reasons stated on pages 5-8 of the Office Action (Paper No. 18). The rejection is respectfully traversed, however. Applicants submit that the features of Applicants' base claims 1, 5, 12 and 17 are **not** disclosed or suggested by Randell '020. For example, as previously discussed, base claims 1, 5, 12 and 17 have been amended to further clarify the definition of a user to be informed of the occurrence of the abnormality in the related business process in the context of a start condition and a completion condition of a business process. As amended, base claims 1, 5, 12 and 17 are believed to be distinguishable over Randell '020. However, to the extent that the rejection may still be applicable, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

The present invention is directed to a workflow management method and a workflow management system including a plurality of client computers and a method as shown in FIGs. 1, 11 and 15 in which some of related business processes in a business flow (business procedure) may be executed concurrently by the plurality of client computers. The purpose of the present invention is to notify clients of the occurrence of an abnormal status change (discontinuance) detected in one of a

plurality of interdependent business processes which are executed concurrently so as to avoid execution unnecessary or useless business processes as described on page 3 of Applicants' specification and the Summary of the Invention.

Independent claim 1, for example, defines a workflow control method in a workflow system connected to a plurality of client computers for carrying out business procedures each comprising a plurality of related business processes, and at least one of the business procedures being allowed to execute some of the business processes concurrently comprising the steps of:

“previously defining in a definition table a start condition and a completion condition for each business process and an abnormal status change to be detected in related business processes capable of being executed concurrently with each other by said client computers;

detecting an occurrence of said abnormal status change in one of the plurality of related business processes based on said definition table;

selecting at least one user who has been already ordered to execute an interdependent business process having a start condition identical to that of the business process in which the abnormal status change was detected or to a completion condition of a business process executed concurrently with the business process in which said abnormal status change was detected; and

notifying a client computer corresponding to the selected user of the occurrence of abnormality in the related business process so as to prevent the selected user from completing the interdependent business process.”

As defined by Applicants' independent claim 1, the definition table is used to define a start condition and a completion condition for each business process, and an abnormal status change. When an interdependent business process is discontinued or canceled while some of the plurality of interdependent business processes are being executed simultaneously, useless business processes can

advantageously be avoided or prevented by way of informing the relevant users of the occurrence of the discontinuance or interruption detected in the related business process, see lines 10-20, page 17 of Applicants' specification.

Likewise, independent claims 5, 12 and 17 define a workflow system connected to a plurality of client computers for executing business procedures each including a plurality of business processes, at least one of the business procedures being allowed to execute some of the business processes concurrently, as comprising, *inter alia*:

- a **definition table** for defining a start condition and a completion condition for each business process and an abnormal status change to be detected in related business processes capable of being executed concurrently;

- a **status watcher** for detecting a status change in a business process being executed, including an occurrence of an abnormal status change defined in said definition table;

- a **workflow engine** connected to the status watcher, for controlling the execution of each of the business procedures based on the status change detected by the status watcher and predetermined business procedure definitions; and

- a **notifier** for notifying at least one of the client computers of the occurrence of the abnormal status change detected by the status watcher, when the user of the client computer has been already ordered to execute an interdependent business process having a start condition identical to that of the business process in which the abnormal status change was detected or to a completion condition of a business process executed concurrently with the business process in which the abnormal status change was detected, so as to prevent the user from completing the interdependent business process

As defined by Applicants' independent claims 5, 12 and 17, and shown in FIG. 1, when an interdependent business process is discontinued or canceled (abnormal status change) while some of the plurality of interdependent business processes are being executed concurrently, it is possible to prevent relevant users from completing the useless business process by way of a notifier for notifying the relevant users of

the occurrence of the discontinuance or interruption detected in the related business process.

In contrast to Applicants' base claims 1, 5, 12 and 17, Randall '020 discloses a workflow system 200, as shown in FIG. 2, including a workflow execution software 120 and a procedure creation software 216 configured to automate the definition of each activity to be performed during a procedure (process) and execution of the procedure carried out according to defined rules among individual users, work groups, organizations, or automatic machines. Automation is used to guarantee that all the individual activities within the procedure (process) are taken in the defined sequence, form and time. The purpose of Randell '020 is to allow a user to define the procedure for completing work, while separating the definition of the entity that will complete each activity of the work from specific individuals who will perform work on the activities, and to provide a mechanism to allow an intervention in the processing of an instance to perform exceptional conditions.

Specifically, Randel '202 only intends to control the workflow routing for each instance comprised of a plurality of nodes, by marking at least one of nodes as being deferred (SUSPEND process). As shown in FIG. 3 in which a procedure defined in the workflow system is described, Randell '020 proposes to re-process the activities of work nodes 308, 310 and 312 when the owner (agent-1) of an instance (who creates the instance at work node 304) rejects the processing results on the instance performed by the work nodes (agent-2, 3, 4) as shown by an APPROVE CHANGE work node 316 and a RE-DO modifier node 322.

As described on column 12, lines 27-34 of Randell '020 with reference to FIG. 10A, the workflow system 200 (coordination service routine 202) checks at block

1009 whether a next node was marked as being suspended by its owner, and if the next node is suspended, the owner is notified that the suspended node is in the queue.

According to Randell '0202, as shown in FIG. 17, the owner can select a menu option to call SUSPENDED process in response the notification. When SUSPENDED process is selected, "the nodes that are being processed are allowed to continue until complete". However, **no** new nodes will be processed, since all nodes that have not been started will be marked as suspended, but a suspended node may be selected (to remove a suspension mark by the owner) for processing. In this case, the owner can receive a notification when the selected node is in the queue according to the flowchart of FIG. 10A. However, the input timing of the suspension mark is not described. On column 12, lines 28-30, Randell '020 simply states that "[A] node will be marked as suspended when an instance is suspended by its owner". As a result, the suspension mark must be inputted when the owner creates the instance.

As a whole, Randell '0202 proposes to stop the progress of a workflow procedure on an instance at an arbitrary node to be a check point by previously setting a suspension mark by the owner of the instance, so that the owner can check the contents of the instance at the time of check point and decides whether the workflow procedure should be resumed (in an ordinary case) or any node of the instance that have already been processed should be re-processed (in an irregular case) depending on the personal judgment of the owner. It should be noted that Randell '020 merely notifies the owner that the procedure arrives at a designated checkpoint and allows a user to complete an activity.

However, Randell '020 does **not** disclose or suggest the detection of an occurrence of an abnormal status change in a business process based on a definition table, selection of at least one user already having been ordered to execute a business process interdependent to the abnormal business process, and notification to a client computer of the selected user of the occurrence of abnormality in order to prevent the user from completing the business process having been ordered to execute, as generally defined in each of Applicants' base claims 1, 5, 12 and 17.

Likewise, Randell '020 also does **not** disclose, nor does Randell '020 have any use for "a definition table for defining an abnormal status and a start/completion condition" as expressly defined in each of Applicants' base claims 1, 5, 12 and 17.

The rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must either be inherent or disclosed expressly and must be arranged as in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988); Verdegall Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The corollary of that rule is that absence from the reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

The burden of establishing a basis for denying patentability of a claimed invention rests upon the Examiner. The limitations required by the claims cannot be

ignored. See In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). All claim limitations, including those which are functional, must be considered. See In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). Hence, all words in a claim must be considered in deciding the patentability of that claim against the prior art. Each word in a claim must be given its proper meaning, as construed by a person skilled in the art. Where required to determine the scope of a recited term, the disclosure may be used. See In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

Further, inherency requires certainly, not speculation. The fact that a certain characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that characteristic. In re Rijckaert, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); and In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 322, 326 (CCPA 1981). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). In relying upon the theory of inherency, the Examiner must provide a basis in fact and technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Ex Parte Levy, 17 USPQ 2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

In the present situation, Randell '020 fails to disclose and suggest key features of Applicants' base claims 1, 5, 12 and 17. There is simply **no** basis in fact

for the Examiner to allege that simple databases 212 and 208 as shown in FIG. 2 of Randell '0202 contains Applicants' claimed "a definition table for defining a start condition and a completion condition for each business process and an abnormal status change to be detected in related business processes capable of being executed concurrently". Therefore, Applicants respectfully request that the rejection of Applicants' base claims 1, 5, 12 and 17 and their respective dependent claims be withdrawn.

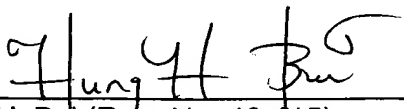
In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 520.37464X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

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